CLAIMS

1. A method for operating a communication bus, comprising the steps of:

detecting a start of frame symbol on the communication bus;

determining a length of the start of frame symbol;

detecting a start of a synchronization field on the communication bus;

determining a length of an adjusted synchronization field;

determining if the length of the adjusted synchronization field is less than the length of the start of frame symbol; and

if the length of the adjusted synchronization field is less than the length of the start of frame symbol, concluding that the start of frame symbol is valid and concluding that the synchronization field is valid.

2. A method as in claim 1, wherein the step of determining a length of the adjusted synchronization field comprises steps of:

detecting a first falling edge; and

detecting a rising edge.

3. A method as in claim 1, wherein the step of determining a length of the adjusted synchronization field comprises steps of:

detecting a falling edge of a start bit; and

detecting a rising edge of a stop bit.

4. A method as in claim 3, wherein the step of determining a length of the adjusted synchronization field further comprises steps of:

determining a first time value between the falling edge of the start bit and the rising edge of the stop bit; and

calculating the length of the adjusted synchronization field by adding a sampling correction value to the first time value.

5. A method as in claim 4, wherein the step of calculating the length of the adjusted synchronization field comprises steps of:

determining a second time value between the falling edge of the start bit and a subsequent falling edge; and

calculating the sampling correction value by dividing the second time value by a predetermined number, where the predetermined number is a power of two.

6. A method as in claim 5, wherein the subsequent falling edge is a third falling edge after the falling edge of the start bit, and the predetermined number is sixteen.

7. A method as in claim 5, wherein the communication bus has a baud rate, and wherein the sampling correction value is less than or equal to 1/(4 x baud rate).

8. A method as in claim 5, further comprising:

determining a baud rate of the communication bus using the second time value.

9. A method as in claim 1, wherein the step of determining a length of the adjusted synchronization field further comprises steps of:

determining a time value between a first falling edge and a subsequent falling edge;

calculating a correction value by dividing the time value by a predetermined number, where the predetermined number is a power of two; and

calculating the length of the adjusted synchronization field by adding the correction value to the time value.

10. A method as in claim 9, wherein the predetermined number is two.

11. A method as in claim 9, wherein the subsequent falling edge is a fifth falling edge.

12. A method as in claim 11, further comprising:

determining a baud rate of the communication bus using the time value.

13. A method as in claim 1, further comprising:

determining a baud rate of the communication bus.

14. A method as in claim 13, further comprising:

after determining the baud rate of the communication bus, receiving at least one character associated with said start of frame.

15. A method as in claim 7, wherein the communication bus is a serial communication bus.

16. A method as in claim 8, wherein the communication bus uses a character-oriented protocol.

17. A method as in claim 9, wherein the character-oriented protocol is a Local Interconnect Network (LIN) protocol.

18. An apparatus for operating a communication bus, the apparatus comprising:

means for detecting a start of frame symbol on the communication bus;

means for determining a length of the start of frame symbol;

means for detecting a start of a synchronization field on the communication bus;

means for determining a length of an adjusted synchronization field;

means for determining if the length of the adjusted synchronization field is less than the length of the start of frame symbol; and

means for determining if the length of the adjusted synchronization field is less than the length of the start of frame symbol, and if it is, concluding that the start of frame symbol is valid and concluding that the synchronization field is valid.

19. An apparatus as in claim 18, further comprising:

means for determining a baud rate of the communication bus.

20. A method as in claim 18, wherein the communication bus is a serial bus which uses a character-oriented protocol.

21. An apparatus for operating a communication bus, the apparatus comprising:

circuitry operable for detecting a start of frame symbol on the communication bus;

circuitry operable for determining a length of the start of frame symbol;

circuitry operable for detecting a start of a synchronization field on the communication bus;

circuitry operable for determining a length of an adjusted synchronization field;

circuitry operable for determining if the length of the adjusted synchronization field is less than the length of the start of frame symbol; and

circuitry operable for determining if the length of the adjusted synchronization field is less than the length of the start of frame symbol, and if it is, concluding that the start of frame symbol is valid and concluding that the synchronization field is valid.